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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------------|
| 10/789,540 | 02/27/2004 | Eric Sandstrom | DKT 03066A (BWI-00084) | 9464 |
| 68945 7590 01/25/2008 WARN, HOFFMANN, MILLER & OZGA, P.C. P.O. BOX 70098 ROCHESTER HILLS, MI 48307 | | | EXAMINER KISWANTO, NICHOLAS | |
| | | | ART UNIT 3664 | PAPER NUMBER |
| | | | MAIL DATE 01/25/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/789,540 | Applicant(s) SANDSTROM, ERIC | |
| | Examiner Nicholas Kiswanto | Art Unit 3664 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10,12-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10,12-17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 19 objected to because of the following informalities: claim 19 states “The method according to claim 16...”, however, claim 16 is claiming a system (“An electrohydraulic system comprising...”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 2, 5 - 10, 12 – 17, and 18 - 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Hagiwara et al. (2002/0029136).

As to claim 1, Hagiwara/136 shows a method of calibrating an electrohydraulic control system (abstract) that provides an output response in response to an input current, said method comprising: identifying a characteristic equation of the electrohydraulic system (Fig. 2), said characteristic equation including a plurality of coefficients (Fig. 2: tau, [0131]: mu); coupling the electrohydraulic system to a test stand [0159]; applying a plurality of different

currents to the electrohydraulic system [0062]; measuring the output response of the electrohydraulic system for each of the plurality of currents ([0064], [0093]); identifying the coefficients in the characteristic equation from the output response measurements [0132]; and flashing the coefficients in a memory [0148].

As to claim 2, Hagiwara/136 further shows the method according to claim 1 wherein identifying the coefficients in the characteristic equation from the output response measurements includes employing a curve fitting function [0140].

As to claim 5, Hagiwara/136 further shows the method according to claim 1 further comprising hard- coding the characteristic equation into control software [0061].

As to claim 6, Hagiwara/136 further shows the method according to claim 1 wherein the electrohydraulic system includes a proportional solenoid and a hydraulic valve, wherein applying a plurality of currents to the electrohydraulic system includes applying a plurality of currents to the proportional solenoid [0064].

As to claim 7, Hagiwara/136 further shows the method according to claim

1 wherein the electrohydraulic system is employed in an automatic transmission (abstract).

As to claim 8, Hagiwara/136 further shows the method according to claim 7 wherein the electrohydraulic system is employed in a pressure regulation system or a flow regulation system used for controlling functions in the automatic transmission [0056].

As to claim 9, Hagiwara/136 further shows the method according to claim 1 wherein the electrohydraulic system includes an integrated transmission control unit (TCU) [0061].

As to claim 10, Hagiwara/136 further shows the method according to claim 1 wherein the output response is selected from the group consisting of pressure and fluid flow [0093].

As to claim 12, Hagiwara/136 shows a method of calibrating an electrohydraulic system employed in an automatic transmission, said electrohydraulic system providing an output response in response to an input current, wherein the electrohydraulic system includes a proportional solenoid, a hydraulic valve, and solenoid drive electronics, said method comprising: identifying a characteristic equation of the electrohydraulic system (Fig. 2), said

characteristic equation including a plurality of coefficients (Fig. 2: τ , [0131]: μ); coupling the electrohydraulic system to a test stand [0159]; applying a plurality of currents to the solenoid controlling the valve [0069]; measuring the output response of the electrohydraulic system for each current ([0064], [0093]); identifying the coefficients of the characteristic equation from the output response measurements [0132], wherein identifying the coefficients in the characteristic equation from the output response measurements includes employing a curve fitting function [0140]; and storing the coefficients in an on-board memory [0148].

As to claim 13, Hagiwara/136 further shows the method according to claim 12 wherein the electrohydraulic system is employed in a pressure regulation system or a flow regulation system used for controlling functions in the automatic transmission (abstract).

As to claim 15, Hagiwara/136 further shows the method according to claim 12 wherein the output response is selected from the group consisting of pressure and fluid flow [0093].

As to claim 16, Hagiwara/136 shows an electrohydraulic system comprising: a device for determining a characteristic equation of the electrohydraulic system (Fig. 2), said characteristic equation including a plurality of coefficients (Fig. 2: τ , [0131]: μ); a device for applying a plurality of

currents to a proportional solenoid in the system [0069]; a device for measuring an output response of the electrohydraulic system for each current ([0064], [0093]); a device for determining the coefficients in the characteristic equation from the output response measurement [0132]; and a memory for storing the coefficients [0148].

As to claim 17, Hagiwara/136 further shows the system according to claim 16 wherein the device that determines the coefficients in the characteristic equation from the output response measurement employs a curve fitting function [0140].

As to claim 19, Hagiwara/136 further shows the method according to claim 16 wherein the electrohydraulic system is employed in an automatic transmission (abstract).

As to claim 20, Hagiwara/136 further shows the system according to claim 19 wherein the electrohydraulic system is employed in a pressure regulation system or a flow regulation system used for controlling functions in the automatic transmission [0056].

As to claim 21, Hagiwara/136 further shows the system according to claim

16 wherein the output response is selected from the group consisting of pressure and fluid flow [0093].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagiwara/136 in view of Ishii et al. (6,679,800).

As to claim 3 and 14, Hagiwara/136 discloses the claimed invention as shown above. However, it is silent as to the specifics of employing a least squares function.

Ishii/800 shows an automatic transmission system that employs the commonly well-known method of least squares (col 8, line 13).

It would have been obvious to one of ordinary skill in the art to provide Hagiwara/136's invention with the teaching of Ishii/800 since it is commonly well-known in the art.

Response to Arguments

6. Applicant's arguments with respect to claims 1 - 21 have been considered but are moot in view of the new ground(s) of rejection. Further, applicant states that the reference Kurihara/547 does not show a "hydraulic valve as in Applicant's invention". However, the claims within the application does not mention any specific electrohydraulic system, thus Kurihara/547 actually does show an electrohydraulic control system regardless of what purpose such a system serves.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Kiswanto whose telephone number is (571) 270-3269. The examiner can normally be reached on Monday - Friday, 8AM - 5PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nicholas Kiswanto
January 9, 2008

/Khoi H Tran/
Supervisory Patent Examiner, Art Unit 3664